Our Fourfooted Friends

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To Our Readers

This issue of OUR FOURFOOTED FRIENDS *has been designed for a special purpose and does not represent the diversified activities of the League as is customary. It deals exclusively with live stock problems, the handling of which constitutes one of our most important functions, and contains a few illustrations and references which will distress many who are sensitive to animal suffering.*

However, most of our field work involves distressing features which must be understood, in order to permit a proper evaluation of the need for the service rendered by the League.

IMMATURE CALF SHIPMENTS

The article on immature calves is not overdrawn in any particular. In fact, some of the features have been modified deliberately, in order to offset any claim of exaggeration that may be made. It will be used as a basis for an earnest and extensive effort to eliminate practices which violate every rule of mercy and decency, and it supplements a recent financial appeal which has been made for liberal support of all our live stock activities.

ELECTRIC STUNNING

Many inquiries have been made relative to the adoption of electricity as the agency for rendering animals insensible prior to slaughter. The report herein contained should prove of some comfort to many who may have concluded that humane organizations are no longer vitally interested in this development.

LIVE STOCK LOSS PREVENTION

The treatise on live stock loss prevention is practically a reproduction of a paper delivered at the Annual Convention of The American Humane Association which was held in Columbus, Ohio, in 1934. It was published in booklet form by the national association, but the supply has long been exhausted. It is included, in order to supply the need for a leaflet for distribution among farmers and others interested in live stock loss prevention.

Prevention of cruelty, *rather than prosecution in the courts after acts of cruelty have been committed, is the fundamental purpose of the humane movement. The Animal Rescue League of Boston does not hesitate to seek punishment vigorously for mistreatment of animals when the facts in individual cases warrant it, but feels that education of the type suggested is the most effective antidote for cruelty.*

The next issue of OUR FOURFOOTED FRIENDS *will follow the regular pattern, but it is hoped this number will serve the purpose intended.*

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LIVE STOCK LOSS PREVENTION

In the preparation of this article invaluable assistance was freely given by recognized authorities in the field of animal husbandry. It would be difficult to adequately express appreciation for their coöperation and collaboration and for permission to include authentic statistics and quotations. Honest differences of opinions were met with. That statement is made for the purpose of emphasizing that the complete treatise does not necessarily reflect the judgment of each individual involved. Special mention should be made of the contribution by the National Live Stock Loss Prevention Board.

EACH YEAR ten million animals are bruised or crippled on the farm, while being transported to market, or in the abattoirs. One animal out of every five slaughtered is bruised or crippled! The loss, much of it preventable, has been estimated as high as twelve million dollars per year. If the hidden losses, those which are discovered in packing plants, and by retail meat merchants or ultimate consumers, could be accurately determined, that figure would be increased by a wide margin.

This article is written for the purpose of indicating the magnitude of the live stock industry—the hundreds of animals involved and the cruelty and waste caused by inattention to simple and practical rules which should be observed in handling live stock.

SLOW UP TO SPEED UP

Cattle, swine and sheep are not adapted to a fast pace and it seems sensible to urge steady, slow handling in keeping with an animal's natural speed and gait as a means for insuring its good condition upon arrival at market. If as much attention were given to selecting men with natural tendencies and experience to handle live stock as is given in the selection of a mechanic, much of the present loss would be eliminated automatically from the transportation of food animals.

COW CULTURE

Walter Hard, in Rutland Herald

Sam Covill was the kind of man to command attention.
He was tall with just enough stoop to his shoulders
To prevent him from seeming austere.
The stoop seemed more like a continuous bow.
His hair was white and so was his long beard.
His blue eyes twinkled in a hairy underbrush.
His look and size and bearing marked him for a leader
And his graciously humble manner made people follow him.
He was one of the best farmers in the valley
And when he talked about agriculture
People listened, knowing he knew what he was talking about.
Because he gave advice in a deferential manner
It was usually followed.

Not a few of the farmers in the region
Owed their success to Sam's friendly interest in them
When they were starting out on their own.
Now and then he succeeded with a young fellow
Whose father had given up in despair.
That seemed strange, when the Covills never had any children.
One evening there had been a discussion in the Grange
About pasturing other animals with cows.
Sam hadn't said anything as the discussion went on.
So somebody finally asked what he thought.
He smiled and said: "Well, all I can say
Is that I've found this out:
Don't put your horses in with your cows;
Don't put your sheep in with your cows,
Don't let your dog in with your cows."
He stopped and looked around at his audience.

"Pick out the laziest man on your place
T' go and fetch th' cows."
Sam started to sit down, and added:
"And if he don't fetch 'em slow enough
Fetch 'em yourself."

ELIMINATING WASTE IN MEAT PRODUCTION—WHAT IT MEANS

The following statistics were recently furnished by Howard R. Smith, General Manager of the National Live Stock Loss Prevention Board, and are submitted as proof that a good start has been made in reducing live stock shipping loss and that continued well-supported efforts will yield still greater dividends.

During the year 1941, there was shipped by rail to all markets in the United States a total of 4,734,603 cattle; 1,994,169 veal calves; 9,050,178 hogs; and 14,997,344 sheep.

Of the cattle hauled by rail in 1936 .040% died in transit as compared with .018% in 1941; veal calves .214% in 1936 and .097% in 1941; hogs .093% in 1936 and .066% in 1941; and sheep .082% in 1936 and .081% in 1941.

These are the combined records for twenty-five markets, extending from coast to coast, and it may be assumed that the number of animals dead on arrival, in proportion to number hauled, would be approximately the same for the entire country. On that basis, the reduction in the percentages dead on arrival in the United States since 1936 means a saving of 5,943 meat animals in 1941 rail shipments.

With an average dressed weight of 520 lbs. on cattle; 108 lbs. on veal calves; 176 lbs. on hogs; and 40 lbs. on sheep (mostly lambs), this would represent a saving of 1,229,212 lbs. of meat in rail deads in 1941 as compared with 1936 losses.

In 1941 the number of meat animals dead on arrival by truck was more than twice the number dead on arrival by rail in proportion to the number hauled.

In 1941 there was delivered by truck to all markets a total of 10,493,453 cattle, 4,133,621 veal calves, 21,609,019 hogs and 7,819,747 sheep.

The decreased percentages of animals that died in trucks, assuming that the percentages for the 20 markets reported apply for the entire country, means a saving of 4,320 meat animals at all markets in 1941 as compared with 1936. This is a saving of 434,324 lbs. of meat in truck deliveries and a total of 1,663,536 lbs. of meat in both rail and truck deliveries in 1941 as compared with 1936. This does not include the saving on cripples which cannot be determined with accuracy.

In 1941 there was slaughtered at all points under federal inspection a total of 10,102,594 cattle of which 1,584 or .015% was condemned as inedible for tuberculosis. There was a total of 48,710,059 hogs slaughtered under federal inspection in 1941 of which 4,014,021 or 8.2% were retained and 15,317 or .031% condemned for tuberculosis. Here was a saving of 1,260,480 lbs. of beef and 2,860,216 lbs. of pork or a total of 4,120,696 lbs. of meat as compared with 1936 losses when .039% of the cattle were condemned, 10.2% of the hogs retained and .053% of the hogs were condemned.

The reduction in the percentage of animals dead on arrival by rail and by truck and the reduction in the percentage of cattle and hogs retained and condemned for tuberculosis in 1941, as compared with 1936, means a total saving of 5,784,232 lbs. of meat in 1941 as compared with 1936.

This is enough meat to feed one division of 16,000 soldiers for a period of one year—almost one pound of meat per day for each man in our army and navy. This meat at an average wholesale price of 17½¢ per pound would have a value of $1,012,240.

In 1935 extensive nation-wide tests revealed a total loss from the bruising of the entire slaughter of live stock that year of approximately $9,000,000. A limited number of tests in 1941 showed reductions. If this loss has been reduced only 11%, it means a saving of another million dollars. More bruise tests will be made in 1942 to determine current losses.

The progress made in reducing these losses has resulted from the concerted efforts of the live stock market interests, western railroads, federal and state agencies, farm papers, live stock associations, humane societies, live stock insurance companies, county agents, 4-H Clubs, Future Farmer Chapters, the careful truckers, and numerous individual producers.

With this wholehearted coöperation continued, we may expect still further reductions in losses—important at all times, but especially now when we need every pound of meat that can be produced and processed into this essential food.

THE PRODUCER

Agricultural colleges and experiment stations, Federal and State Departments of Agriculture, and other agencies, are constantly working out new methods of raising animals more economically and this progress has helped the live stock producer to raise better animals. They can well point with pride to their achievements in improving live stock for meat purposes, but in the conservation of the product—in reducing costly losses resulting from dead, bruised and crippled live stock when marketing—the live stock and meat industry still has a great deal of work to do.

Bad Feeding and Watering Practices

A large percentage of live stock loss has its roots in the feed lot, or, more definitely, while still in the hands of the producer. If he is a successful stock raiser, he breeds for strong bones, a capacious chest, a rugged animal generally. He knows that loss prevention begins with proper breeding followed by intelligent feeding, housing and good care. He watches his stock grow day by day and deserves fullest praise for efficient husbandry. But what a sad departure from common sense is so often witnessed on shipping day! The realization that his profit is right around the corner seems to wreck his judgment. His animals have reached their maximum weight and automatically have become just so much pork, beef, or mutton, worth so much per pound. The spectre of shrinkage looms up strongly, and in order to retain his paper profits he proceeds to invite founder and other disaster by heavy last-minute feeding.

It should be admitted that in some instances this gorging is permitted in order to fortify live stock for the long 28- to 36-hour haul the Federal Government now permits. Possibly down deep in his heart the producer believes that the long period during which live stock may be kept confined legally without food, water, exercise or rest in transit is responsible for many losses. Whether the practice of heavy last-minute feeding is based upon mercy or greed, the result is the same—*Misery!* If not death! *Live stock loss* in either case.

The danger of wet, slippery floors in stock cars and trucks will be discussed later, but in the interest of reducing the hazard, it is wise not to *overload* the stomach, kidneys and bladder of animals just before loading, but there is a far cry from one extreme to the other. A ration sufficient to satisfy the appetite a reasonable period before loading, in place of overeating, will reduce this danger very materially. In order that the impression is not created that a near starvation diet is suggested just prior to shipping, it is recommended that the same sort of attention be given to the watering and feeding of animals as would be given to the appetite and needs of a person embarking on a long journey by rail, truck or boat. It is true the latter would not be called upon ordinarily to wait two full days and a night for the next meal, but even if such were the case, overeating and overdrinking would do more harm than good. The excitement attending the first stage of the last long journey, the trip from the feed lot to the loading pen, frequently induces indigestion if the alimentary tract is overloaded, and the animal is handicapped and profits threatened at the very outset.

Animals, notably lambs on full feed, will often die in the feed lot without introducing excitement or overactivity into the picture when excessive feeding is permitted. Undoubtedly, however, the heaviest losses from this cause are experienced in hog shipments. Under present ordinary shipping conditions it is a mistake to attempt to feed animals, hogs especially, in transit.

Need Strong Bone Structure

A strong bone structure aids materially in avoiding crippled animals, especially hogs. In this connection, the National Live Stock Loss Prevention Board makes the following suggestions:

> "To reduce crippling in hogs, much more attention must be given to the use of minerals in the rations to give greater strength of bone. Too many farmers fatten hogs on corn alone, which is deficient in both protein and minerals. In comparing the strength of bones taken from the carcasses of hogs fattened on corn exclusively and taken from those fattened on corn and protein supplements containing sufficient minerals, it is found that the breaking strength is much greater in

the bones from hogs fed on balanced rations, though the stronger bones were no larger in size."

It is altogether possible that overfeeding just before loading and the feeding of rations deficient in mineral content are the heaviest contributing factors to live stock losses, on hogs in particular. A ton load cannot be carried safely on a half-ton chassis, and the same holds true with a heavy hog. Weak leg bones crack under the strain of shipping. The number of dead and crippled hogs would be reduced under a scientific feeding program, including skim milk, other protein supplements limestone and leguminous pasture. Experienced stockmen recommend that roughage (timothy hay and oats straw) take the place of leguminous hays for cattle and sheep just before shipping.

Hog Anatomy

The fat domestic hog is so constructed that a distended stomach crowds the lungs and heart to the point of suffocation. He cannot safely have a full stomach and full lungs at the same time. His vital organs are crowded into a space so small that it is miraculous so many withstand the rigors of shipping, even under the best of conditions, especially in hot weather when he cannot be likened to anything more truly than to an overheated, overloaded motor. His sweat glands are very poorly developed and comfortable body temperature is dependent largely upon exhalation of heat from normally undersized lungs.

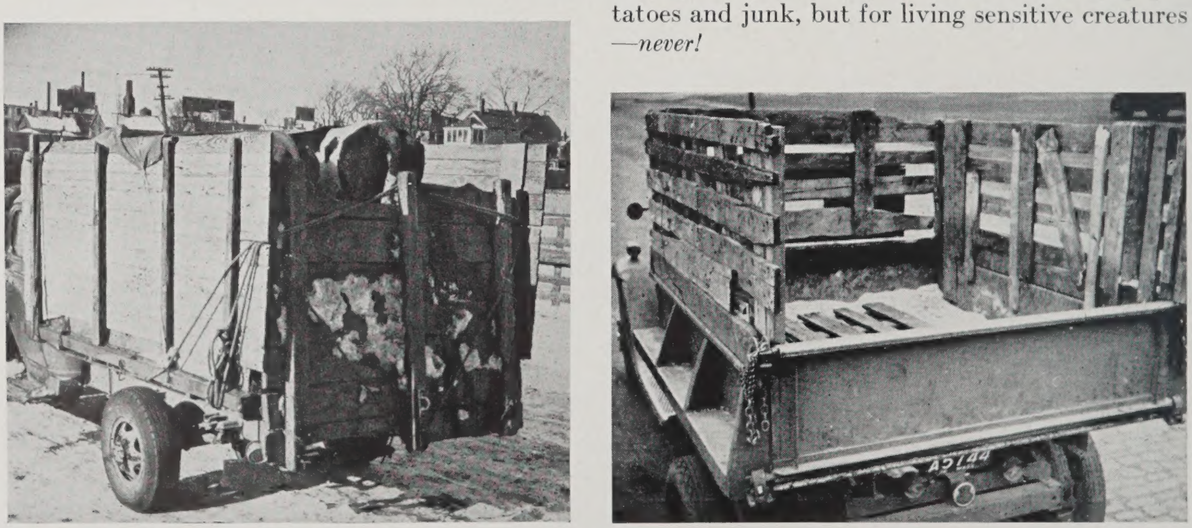
Producers would do well to induce growing hogs to exercise—the only way to develop lungs. That should not conjure a vision of little pigs, big pigs and medium-sized pigs all taking regular 7 A.M. setting-up exercises accompanied by music. However, even that might be induced. All that is necessary is to feed some distance from sleeping quarters in cool weather. The gymnastics begin immediately once the gate is open. The pigs furnish their own music.

The Western Weighing and Inspection Bureau, Chicago, Illinois, distributes a circular which portrays striking comparative studies of the size and development of the lungs of a pasture hog, a hog fattened with grain on pasture, and a hog fattened in the pen. The lung of the range hog is the largest because it has to rustle for itself and, therefore, takes plenty of exercise. The lung of the hog fattened on the pasture is slightly smaller because, while it has to rustle for itself to some extent, it is given part of its feed. The lung of the hog fattened in a pen is considerably smaller than the hog fattened in the open because it is placed in a pen soon after weaning and is supplied with all the food that is necessary to make fat hogs. This lack of exercise causes the lungs to develop sufficiently to meet only the requirements of the condition under which the animal lives.

TRANSPORTATION

The Shipper

He may also be the producer, but the term brings to mind an individual, often a dealer, operating on a small profit margin, with a truck usually sturdy and well built, roomy and clean, but occasionally an abomination on four wheels with a narrow, rickety body probably suitable for hauling potatoes and junk, but for living sensitive creatures —*never!*



Outfits such as these are responsible for many bad bruises and other injuries

For short hauls, principally from the farm to the railroad yards or sidings, a well-equipped truck has much to commend it, but for long interstate shipments or lengthy intrastate journeys less damage is done by rail. Provided plenty of time is given to careful loading and handling, the method certainly is to be recommended in preference to driving on country roads, under a sweltering summer sun, or over the ice-covered highways in winter. Heavy hogs should never be driven any appreciable distance. Hard driving of all stock should be avoided and for the well-being of live stock the limited use of well-equipped trucks is to be recommended, but frequent stopping and starting, rough highways, high speeds around sharp corners with attendant banging and bruising, condemns them as undesirable compared with a relatively smooth-riding stock train on a good roadbed for long distances.

Inspection of truck shipments after a run of a hundred miles or so frequently discloses deplorable conditions. It is not uncommon to find cattle loaded crosswise and crowded so closely together that a change of position is impossible. In some cases the flesh on the buttock at the base of the tail, and elsewhere, has been found to have been bruised and torn from the continual rubbing against the side of a too narrow truck body. This is simply suggestive of many types of injuries associated with the kind of truck which must be overloaded to carry a paying load, or the vehicle of ancient vintage, or one equipped with flimsy side rails and partitions. This should not be considered a reflection on the truck of good construction operated by a careful driver who observes good shipping and handling practices. In fact, in the New England states at least, the mortality rate of calves shipped in approved trucks is lower than in rail shipments, although the rail shipments are longer on the average.

The Trucker

Trucks, however, demand careful inspection touching on all phases of live stock loss. They already enjoy many financial advantages over the railroads—no expensive right of way to maintain and no heavy road tax to make up for it, to mention just two, and the careful shipper would do well to insist that at least some of this saving be used to maintain equipment which would not contribute so heavily toward live stock loss.

The spread of contagious disease should be more seriously considered in an individual sense by all who are associated with the live stock industry. Infected stock cars are cleaned and disinfected by the railroads before being returned to service, thereby complying with government quarantine requirements. This precaution is not generally voluntarily observed by the average trucker, and by the time the need for it is recognized by public health authorities the vehicle has in many cases spread contamination over many farms and highways without regulation or hindrance on the part of anyone.

The National Live Stock Loss Prevention Board and the Eastern States Live Stock Loss Prevention Association recognize the need for better regulation and the formulation of compulsory rules to govern the shipment of animals by truck. Dr. J. R. Mohler, Chief, Bureau of Animal Industry, Washington, D. C., has submitted to the Secretary of Agriculture the following recommendation to be considered in connection with a bill which has been prepared, the nature of which is suggested by the letter itself:

> "The mobility of the truck makes it possible to deliver diseased animals to stockyards and depart before the infection is discovered. Moreover, the truck may be used again before it can be detected and traced and disinfected, whereas the railroad stock car can be easily traced and cleaned and disinfected in nearly every instance before being reloaded.
>
> "The 28-hour Law, when properly complied with, causes animals to be unloaded for rest and proper feeding and watering at stated intervals. Handling live stock in conformity with the provisions of the law prevents much suffering and shrinkage and the animals are delivered at their destination in the best condition possible. At the time this law was enacted, motor trucks were not a factor in live stock transportation, and, therefore, no provision was made for the proper handling of live stock shipped interstate by trucks.
>
> "However, reports have been received of long-haul shipments of animals which have been handled in an inhumane manner, and efforts are being made to have the present law amended so that it will cover truck as well as railroad shipments of live stock."

In meeting competition of the trucks, some railroads at least have so far reduced carload rates on live stock that they cannot engage in many of the improvements that should be made without a heavy drain upon their revenues. Any effort on the part of the railroads to increase live stock rates to permit improvements in the interest of reducing loss would result in driving still more business to trucks, unregulated as they are and accountable to no one for their rates, service, obligations or quarantine laws.

Many truckers do not even bother to carry a tarpaulin as protection from the elements. Practically all double decks are too low and the trucks cannot be made high enough to accommodate two decks of the proper height without becoming top heavy and also because bridge clearance must be taken into consideration. Close decks play havoc with air space in the lower compartment especially, contributing to much misery and heavy death loss. In truck shipments the loading is often heavier than the truck itself and causes a bad "whip." Even a very ordinary stop throws the load hard against the front end with damaging results. All trucks and truckers should not be condemned—some are good, others fair, but the bad ones are numerous and very, very bad.

The following tabulation proves beyond doubt that efforts should be intensified to improve truck shipping practices:

COMBINED LIVE STOCK RECEIPTS, AND NUMBERS AND PERCENTAGES DEAD OR CRIPPLED ON ARRIVAL BY RAIL AND BY TRUCK AT KANSAS CITY, ST. JOSEPH, OMAHA, SIOUX CITY AND ST. PAUL, BY YEARS

	Received		*Dead*		*% Dead*		*Crippled*		*% Crippled*	
Year	*By Rail*	*By Truck*	*Rail*	*Truck*	*Rail*	*Truck*	*Rail*	*Truck*	*Rail*	*Truck*
					CATTLE					
1935	2,502,076	2,440,332	610	993	.024	.040	1,225	4,137	.048	.169
1936	2,318,342	3,111,329	548	1,176	.023	.037	979	3,886	.042	.124
1937	2,457,971	2,362,382	409	1,287	.016	.054	769	3,343	.031	.141
1938	1,872,097	2,543,823	286	800	.015	.031	896	2,399	.048	.094
1939	1,867,625	2,642,145	257	993	.013	.037	517	2,987	.027	.113
1940	1,669,128	2,939,829	171	1,025	.010	.034	345	2,857	.020	.097
1941	1,651,467	3,436,640	202	1,034	.012	.030	453	2,951	.027	.085
					CALVES					
1935	343,240	719,941	735	948	.214	.131	377	709	.109	.098
1936	367,422	801,418	738	1,381	.200	.172	385	909	.104	.113
1937	398,042	831,358	497	1,291	.124	.155	462	755	.116	.090
1938	319,842	689,562	299	950	.093	.137	287	638	.089	.092
1939	345,849	646,157	201	1,055	.058	.163	258	621	.074	.096
1940	267,507	652,546	128	1,216	.047	.186	185	738	.069	.113
1941	220,350	634,548	133	994	.060	.156	212	809	.096	.127
					HOGS					
1935	382,218	3,782,760	318	3,166	.083	.083	752	7,596	.196	.200
1936	810,731	5,919,003	603	5,628	.074	.095	1,312	8,196	.161	.138
1937	705,494	3,762,761	404	3,160	.057	.083	1,661	7,888	.234	.209
1938	1,109,134	4,208,872	541	3,795	.048	.090	3,288	11,225	.296	.266
1939	1,288,920	5,089,483	476	5,744	.036	.112	3,308	14,561	.256	.286
1940	1,781,323	6,801,036	770	6,926	.043	.101	4,310	15,107	.241	.222
1941	1,615,496	5,559,168	659	5,960	.040	.107	4,230	15,052	.261	.270
					SHEEP					
1935	4,407,044	2,063,037	2311	5,337	.052	.258	917	2,437	.020	.118
1936	4,391,216	1,881,528	2587	4,959	.058	.263	1,243	2,506	.028	.133
1937	4,124,997	1,745,304	2202	4,215	.053	.241	1,050	2,268	.025	.129
1938	4,345,291	1,739,344	2041	4,641	.046	.266	1,139	2,003	.026	.114
1939	4,180,554	1,842,960	2614	5,363	.062	.291	1,389	2,932	.033	.159
1940	3,944,150	1,969,712	2084	5,177	.052	.262	1,129	1,988	.028	.100
1941	3,765,784	2,254,187	2461	5,471	.065	.242	1,239	2,258	.032	.100

There were two and one-half times as many hogs dead on arrival by truck in 1941, but only a slightly larger percentage crippled by truck that year.

Nearly four times as many sheep were killed and three times as many crippled in trucks as in cars at these five markets in 1941.

The Railroads

There is much to be said for the various railroads in regard to the transportation of live stock. The causes of losses are recognized and admitted, and there is no question but that coöperation on the part of all participating agencies in observing general rules, now in force, would go far in reducing shipping losses.

Rules and regulations prepared and distributed by the leading railroads have been used freely in the preparation of this article. They emphasize that loss prevention in a large degree is a simple matter under normal conditions. They recommend that the shipper order his car twenty-four to forty-eight hours in advance of shipping date in order to guarantee cars in good state of repair. The position might well be taken that the carrier should not offer a faulty car, but at the same time it must be admitted that there is the possibility of careless employees permitting such a car to slip by. The placement of a car, a few hours before loading, permits a thorough inspection for protruding nails, bolts and other obstructions—all of them destructive agencies. A hasty glance is not sufficient assurance against weak and faulty floors, large cracks, broken slats, dangerous splinters in the walls, or weak or broken doors. Stock should be loaded in cars not earlier than an hour before arrival of the train in which it is intended to move them, and shipper at original loading points should be kept properly advised as to probable time of arrival of such train. A rule which should never be broken is that all species should be quietly rested in comfortable stock pens for a sufficient period before being loaded. Without attempting to give the railroads a clean bill of health in all that enters into live stock loss on their part, it is right to feel that they are just about as much interested as anyone in weeding out preventable causes of bruises, broken bones and other injuries.

BEDDING

All authorities agree that a couple of inches of good, clean sand provides the basis for a safe bed in transit. Cattle usually ride standing up, and they need good footing. If it is wet down thoroughly in hot weather before loading hogs, it reduces the temperature and lowers mortality.

Straw in quite liberal quantities should be added for hogs in winter, but never in warm weather. Straw about six inches deep on the floor of a car helps to prevent hogs from piling up and suffocating in cold weather. Then, too, they push it to the side of the car making a fairly good wind break. Added safety and comfort seem to demand the addition of straw for calves all the year round.

CLEAN CARS HELP PAY DIVIDENDS

The matter of cleaning both trucks and stock cars thoroughly before each reloading should be carefully considered. Despite assurances to the contrary, it is not being done in all cases. It is agreed that a car used exclusively for sheep can make several trips from range to market with bedding often in fairly good condition, but all hog and cattle shipments require thorough cleaning and new bedding before each reloading. Arguments against it are based upon the expense factor, upon the danger of infecting local herds if communicable disease is present in through shipments and the bedding removed at destination, and upon the danger of introducing undesirable weeds if the bedding is used as fertilizer. An economic and practical method for destroying it or rendering it harmless could be devised if an honest effort were made.

As for the inconvenience of keeping replenishments of sand and straw available—that is part of the responsibility of transporting live animals!

PARTITIONS

It is recognized that the need for partitions to separate mixed shipments is more acute than in the case of straight loads, but the whole question is of sufficient importance to warrant rather detailed discussion. Railroad tariffs cover the partitioning of mixed loads except in so far as sheep and calves are concerned. A change is needed here. It is a well-known fact that calves, instead of walking around sheep, will climb over them and once a sheep is down he is usually down for good.

There can be no dispute or disagreement, except on the part of careless shippers who must be made to know that safety in shipping must take precedence over convenience and the fancied saving of a dollar or two, in so far as flimsy homemade partitions too often used in separating species are concerned. Inasmuch as a fragile homemade makeshift, never to be returned, will cost the shipper a dollar or more, it would seem practical for railroads to furnish standard partitions, charging a nominal sum to cover breakage, loss and expense, if any, in getting them back to shipping points. Gates owned by the Northern Pacific Railway are used extensively in North Dakota, Minnesota, and Wisconsin—the states in which they handle their heaviest calf shipments and mixed loads. Satisfactory results are reported. Some of these partitions make thirteen trips annually. Railroads arrange to keep a supply of grain doors at principal stations to be used when needed, and the same general practice should work out successfully if applied to live stock partitions. Since live stock cars during slack seasons are used for hauling lumber and rough freight the idea of permanent partitions is considered impractical, but railroad companies, notably the Canadian National Railways, have experimented with the idea and it is altogether possible the problem may be solved eventually. Be that as it may, removable standard partitions are practical and sound.

ADDITIONAL PARTITIONS RECOMMENDED

Despite a study made by Purdue University, which developed that death and loss from crippling were lower in straight carloads of hogs than in mixed carloads with each species partitioned, the idea of equipping all stock cars with sturdy, removable partitions to be used in straight loads of uniformly sized animals should be carefully examined. The fact that hogs lie down during a long journey to a far greater extent than cattle, and sometimes pile up in cold weather, must be kept in mind.

Objection is based upon the theory that additional partitions would increase rather than tend to eliminate bruises and other injuries. The point is also made that the partitions themselves would take up much needed floor space and create an overcrowded condition with the regulation number of animals to a carload. That may be true, but it would seem sensible to reduce the number by one or two if that would result in the delivery of more uninjured animals to market. Overloading or overcrowding in both rail and truck shipments is recognized as a principal cause of live stock loss.

Shipper, carrier and packer, all would do well to insist on snug loading—but not overcrowding! When a train or truck stops suddenly there is a strong forward impulse. The stock up front in a snugly loaded car has an advantage over those that face the hazard of too much open space when thrown against the front end. The massed weight of a carload of heavy stock applied suddenly can very easily crack ribs and cause other damage to animals in the forward end, but the stock located in the rear travels farthest when the sudden stop is made, and if the floor is slippery there is danger of a pile-up. A sudden start reverses the process. Quick starting and stopping is not the only cause of load shifting—fast driving on sharp curves takes its quota of bruises and other injuries.

In hilly country, where the slack runs in and out along a lengthy freight train, there is a constant leg-wearying shifting and toll taking in the shape of injuries. It would seem logical that three compartments, formed by two substantial gates each containing ten 800-pound cattle, or six 1,200-pound horses, or twenty-six 200-pound hogs, or thirty-six 100-pound sheep, would constitute a far less hazard than a thirty-six or forty foot car with no partitions carrying a load of from twenty-two to one hundred and twenty-five animals each, depending upon size and species. Each compartment would take up its own share of shock and no more. It is doubtful if more labor would be entailed in loading a few animals at a time, enough to fill each compartment comfortably, than to start the whole carload forward, and the same applies to unloading one section at a time. There certainly would be less crowding and fewer injuries caused by a number of animals trying to crowd through a car door at one time. Ten cattle can be driven in more orderly fashion and with less excitement, confusion, and abuse than thirty. SLOW UP TO SPEED UP!

RECENT DEVELOPMENTS

An advertisement of the Timken Roller Bearing Company in the April 18, 1942, issue of the *Saturday Evening Post* stated that mechanical improvement would make it possible for freight cars to travel at passenger-train speeds when roller bearings are used. This indicates that the idea is being seriously considered. The operation of a railroad would be greatly simplified under such an arrangement. Perishable freight, including live stock, would not be side-tracked so frequently thus eliminating the cause of much bruising and crippling. A more speedy schedule would permit fuller compliance with the twenty-eight-hour law without invoking the additional eight hours now permitted. Greater speed would eliminate much of the suffering from mid-summer temperatures, and would necessitate far greater protection during the cold months.

Such an innovation would in all likelihood necessitate some change in design and a stock car with better riding qualities. The expense involved could be partly met through decreased damage claims. The riding qualities of trucks and automobiles have been improved to such a marked degree that it is hard to understand why more improvement has not been made in freight cars.

A report that the Pennsylvania Railroad was planning along this line instigated a letter of inquiry which brought the following response:

> "The whole matter has been greatly exaggerated in the public press. What we have done is to design a new type of car truck which, through the introduction of elliptical springs in addition to the customary spiral springs, greatly reduces the so-called vertical harmonics in freight cars and gives an easier and smoother ride. Our original announcement to the press, a copy of which is attached, you will note simply dealt with the advantage of the new car truck as applied to all types of freight cars, including not only live stock cars but cars in general merchandise and other service.
>
> "Some enterprising reporter, however, got the bright idea of featuring the three little pigs going to market, and out of his fertile brain has come extensive publicity—built up by other imaginative reports about these new cars for live stock. I am afraid they exist only in the imaginings of the newspaper reporters. We will, of course, as opportunity affords, place a new type of truck under our live stock cars. This will, undoubtedly, make for much more comfortable riding, less injuries in transit, and generally improved handling of live animals. There will, however, otherwise be no change in the design of our live stock cars."

Even that is encouraging and is submitted for consideration by other railroad lines.

Loading Chutes and Prods

Much loss is caused by improperly constructed loading chutes. Many of them are far too steep. Cleated floors and solid bridges are very necessary. They should be built so as to form a proper union between the truck, stock car and loading platform.

At no stage is there a proper use for clubs, whips or canes. Canvas slappers or slap-jacks contain all the urge necessary for hogs, steer or sheep, and it might be mentioned profitably that a wet canvas slapper is capable of producing a serious bruise. In sorting hogs, a pole in the hands of a careful drover might be above criticism, but there is every temptation to use it improperly. A specially constructed broom with a long handle was placed on the market a few years ago and rather extensively used for a short time. Live stock interests would do well to consider its general use.

ELECTRIC STIMULATORS

The ordinary electric prod pole consists of two stout electrodes protruding from the end of a cylindrical container and connected with two one and one-half volt dry batteries, the voltage output of which is stepped up by means of a coil or series of coils.

In general, they are not recommended as a means for handling live stock. Even a slight shock has a tendency to cause cattle to lunge forward against the side or end of a truck or car causing bruises and other injuries. Their misuse cannot be condemned sufficiently. It is a common practice to tamper with prods of light voltage to increase their output and to apply electrodes to tender and moist parts of the body.

Upon request of the Livestock Loss Prevention Association of Ohio, an interesting report on the use of the electric prod pole was recently made by George Kuhn, Counsellor for certain humane societies in Ohio. It fully justifies the objections to their use:

> "We had the privilege of consulting with the Director of the Tanners' Research Bureau of the University of Cincinnati, Dr. Fred O'Flaherty, who approached us with reference to some damaged hides that had been transmitted to them for research work; that is, to determine the cause of the marks on these hides which were giving them much concern. The marks were made with an instrument which had two prongs, and were invariably in series of two, creating the impression that a tool with two dull prongs was used. We worked with Dr. O'Flaherty to find the cause because we were interested in the inhumane angle of the problem. Our officers soon found a trucker who was using an instrument called an electric prod, the effect of which caused the animal to jump high in the air or forward and land upon other animals creating damage which is not apparent to the cattle buyer and which would only be known after the animal was slaughtered and dressed. We confiscated the prod pole, which was a homemade implement, and it was immediately tested for its output and effect on a ham. The tests were made wholly by disinterested persons in the presence of Dr. O'Flaherty.
>
> "As a result of this proceeding we came into conflict with the stockyards company officials which resulted in a meeting of stockyards men, drovers, S.P.C.A. agents and attorneys representing all concerned. The stockyards companies, which were selling to drovers a factory-made type of prod, displayed a spirit of coöperation and offered the use of one of these for the same tests. The results brought forth the same burns, but a higher voltage output. It was then decided that the use of these prods be discontinued, and the stockyards companies agreed to discontinue their sale."

HORN DAMAGE

Twenty per cent of all cattle and hogs slaughtered are bruised by horns. Since it is not possible, previous to slaughter, to determine the amount of bruise damage in cattle, buyers generally try to buy all horned cattle low enough to cover the average horn bruise loss. A minimum deduction of 25 cents per hundredweight on the average car of horned cattle amounts to between $50 and $60.

Horned cattle are likewise discounted by feeder buyers who may refuse to purchase horned cattle because:

Fewer horned cattle can be shipped safely per car.
Horned cattle fight more and are more restless.
They injure each other both in transit and in feed-lots and, therefore, do not feed out as well.
They require twice as much feed-bunk space as dehorned or hornless cattle.
They lack uniform, well-shaped heads which are attractive to buyers.
Dehorned cattle handle easier and are safer.

When calves are very young and still on the cow, dehorning with dehorning paste is easily, quickly and economically done. Then shock and pain are negligible and there is no bleeding. Dehorning paste is used extensively in most areas throughout the year by an increasing number of cattlemen. They find it is an efficient, practical and humane treatment; that no extra equipment is required. One man alone can do the job. This relatively painless procedure destroys the horn-producing layer of skin, thereby causing the animal to mature without the development of horns. This process is becoming more general as live stock men learn of its virtues. The discomfort manifested by the chemical process is almost negligible compared with that of removing horns already developed.

HOT WEATHER

The Use of Ice

Weather extremes exact a heavy toll under present general shipping conditions. Heavy hogs are a delicate product, especially in midsummer as already stated. It is claimed that 300 pounds of ice distributed in 50-pound cakes on a car floor will afford greater relief than ice bags hung from the roof. A combination of the two, religiously replenished at every unloading station in addition to frequent sprinklings, is recommended.

Showering

The most modern sprinkling apparatus consists of an extension from a water pipe at the side of the track which directs the spray into the side of the moving train with considerable force. The sprinkler should have some movement up and down in order to hit the side slats and top of car, converting a stream into spray before it reaches the hot hogs. If this is done every two or three hours in transit, much loss will be prevented. Provision is made for replenishing the water supply of the engine at regular intervals, and equal attention to a hog's need is a reasonable suggestion.

Showering is the rule at division points and more often if the caretaker requests it. All water tanks should be provided with a hose if a more elaborate sprinkling system is not in use, and the showering done when the hogs need it—*not left to the whim of the caretaker.* When the bed is composed of sand and the temperature passes 70 degrees it is time to introduce the sprinkler. Proper loading in clean, properly bedded, well-ventilated cars, and a maximum speed is about all that can be offered for summer comfort of other species.

Whenever possible the practice of stopping the train so that the stock cars stand between other trains on adjacent tracks or alongside buildings or hot engines should be avoided. Free circulation of air is needed for comfort and safety.

COLD WEATHER

Wind Breaks

In the consideration of cold weather hardships it should be remembered that our food animals are not kept in steam heated apartments at any time from birth to the end of their lives. They all have fur coats, and, barring drafts and too much dampness, are far more comfortable in low temperatures than is realized. Protection, however, to a greater extent than is generally given at present, is imperative. On the western lines the common practice is to close up the slats on the north side of the cars on transcontinental or intermountain shipments of hogs in winter weather. The results are such that shippers realize that they cannot afford to do otherwise. The answer to the question as to why the same care is not given cattle and sheep is found in the fact that they are better protected by a thick covering of hair or wool. Hogs in cold weather often pile up and smother.

Despite the fact that some heavy losses, due to trains equipped with heavy paper wind breaks running into warmer weather, have been reported, it is felt that closing up the sides of the cars containing all types of animals (either with a light cheap cloth which will permit proper ventilation or the use of paper sheathing with enough open space left at the top to prevent smothering) is good practice. Hinged slats, to be dropped into position between those nailed permanently when the temperature drops and re-opened when ventilation is needed, would seem a practical and sensible suggestion.

Box Cars

If box cars were provided with ventilators and end windows, they could be used more freely in cold weather, but unless loaded lightly and accompanied by a caretaker the hazards from smothering would be great. In all cases when used, the tight doors should be fastened back securely and the door space slatted up in such a way as to permit free passage of air. The heat generated by massed animal bodies in a tight pen or compartment is surprising.

Upper Decks

Even in open cars, care must be exercised when upper decks are used. Shippers are warned to load from six to eight fewer animals in upper decks, because of the menace from animal heat and suffocation. It would improve matters greatly if all double-decked cars were equipped with roof ventilators.

Only sheep, goats, hogs, or calves, and only calves small enough not to contact the ceiling in either deck, should be shipped in double-deck cars. Too much emphasis cannot be placed upon the wide safety margin provided by adhering strictly to the rule to handle veal in single decks.

Weather Broadcasts

Some attempt has been made by the Western Weighing and Inspection Bureau to warn shippers of approaching blizzards or other dangerous hot or cold weather conditions. When weather reports indicate that a hot Sunday is in prospect, railroads in some sections are notified and as a result, a sufficient crew is kept on duty at division points to inspect live stock cars properly and promptly. Death loss and suffering is reduced by keeping these trains in motion. It would be a worth-while contribution if some organization or group could take on the duty of collecting and broadcasting weather information of special interest to live stock shippers.

RECEIVING YARDS AND PACKING HOUSES

Shipping and receiving yards—many of them at least—lack simple safeguards for the comfort and welfare of live stock. Communicable disease always has been a heavy stock loss factor. If closer inspections could be maintained at principal loading points, the shipment of sick animals would be controlled more fully. Quarantine regulations are designed to prevent the shipment of sick animals or those which have been exposed to communicable disease, but the sick and unfit continue to filter through in a steady, unending stream. Therefore, there is need for better drainage facilities and more sanitary safeguards generally to help offset the spread of disease. Adequate shed and feeding and watering facilities are woefully lacking in many places.

CHICKENS AND OTHER FOWL

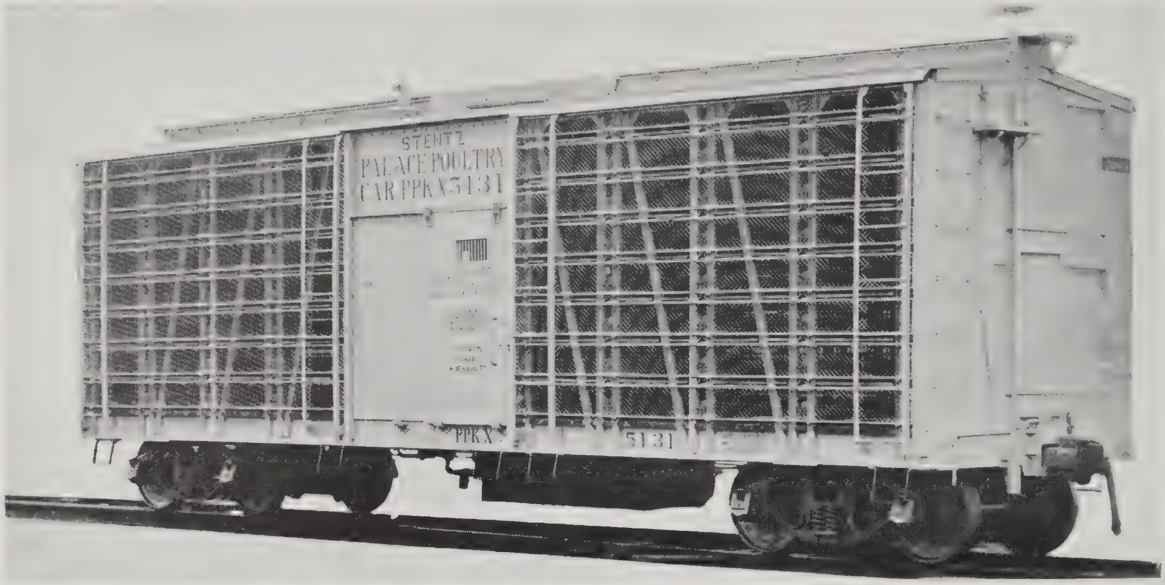
Overcrowding, low crates, many rough handlings on the road from the farm to the consumer, gorging, loading crates on an angle in trucks and so close to the top and below others as to shut off the air, rough loading and unloading, lack of canvas covers and wind breaks in wet and cold weather, lack of water, and watering facilities especially in truck shipments, is just suggestive of the list of evils to be corrected in the interest of prevention of loss in poultry shipments. The following table indicates the size of containers which should in all cases be insisted upon:

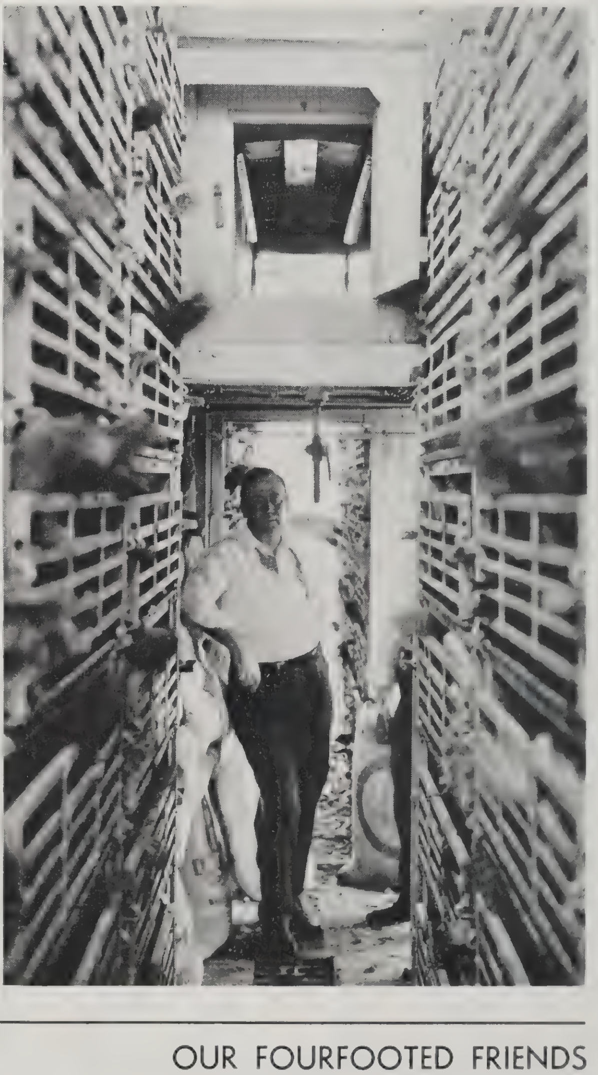
Coops for	Turkeys	not less than	20	inches high
	Geese		16	
	Old Roosters		16	
	Large Fowls		16	
	Ducks		12	
	Small Fowls		12	
	Spring Chickens		12	

Commission men handling fowls suggest the following as the proper number to be placed in each standard coop:

Turkey Gobblers		5	to a coop
Turkey Hens		6	
Geese	Large	6	
	Medium	8	
	Small	10	
Ducks	Large	8	
	Medium	10	
	Small	14	
Roosters and Fowls	3 to 4 lbs. each	16	
	4 to 5 lbs. each	14	
	5 to 7 lbs. each	10	
	7 to 10 lbs. each	8	
Springers	2 to 3 lbs. each	18	
Springers and Fowls	1 to 2 lbs. each	20	

Squab pigeons should not be shipped under six weeks old.





The well-equipped poultry cars of the North American Car Corporation are recommended for long distance hauling. They contain 128 individual permanent coops and the average shipment in each car varies from 15,000 to 17,000 pounds. Attention is especially directed to the interior view of one of these cars. It will be noted that overhead, directly in the center, is a permanent metal water tank with downspout connection to permit the attendant in charge to water poultry en route to market. Between each of the coops there is a trough which can be moved back and forth for feeding purposes. These troughs operate independently from the coop, permitting feeding without opening the gates. Additional feed and water is obtainable at various stations along the individual railroads. It is usually necessary to refill the water tank at least once a day.

The stateroom, or space in the center, is equipped with a bed, stove and locker for the comfort and convenience of the caretaker who may be on the road anywhere from three to five days.

The death loss in shipping live poultry in these cars is negligible, and it is not uncommon for the out-turn weights at destination to be greater than the loading weights. This naturally indicates an increase in the weight of the poultry en route to market when properly fed and watered and otherwise cared for by experienced carmen.

LOSSES FROM DISEASE

Bovine Tuberculosis

This until recently has been one of the most serious diseases of cattle in the United States. It still is in other countries and can be transmitted to man. Hogs, following tubercular cattle, readily succumb to the disease. Small tubercles form in internal organs. The infection spreads by eating food or drinking fluids contaminated by discharges from infected animals. Quite often no external signs of this disease will show, but if lungs are affected the animal may cough or have difficulty in breathing. The standard test to detect this disease consists of an injection of tuberculin into the skin—not through it. Swelling will appear in thirty-six to seventy-two hours if animal is tubercular. If there is no swelling, there is no disease.

From 1916, when the Sanitary Committee of the Chicago Live Stock Exchange was organized and financed by market interests, until 1922 when similar committees were formed at other markets, and for several years thereafter, educational and promotion activities were confined to the eradication of tuberculosis. This was because of the extremely heavy losses on beef and hog carcasses condemned as unfit for food under federal inspection in consequence of the general prevalence of tuberculosis particularly in the northern half of the United States. The annual loss on condemned meat and on farm breeding cattle that died from this disease was estimated at $40,000,000 in 1917—a major problem in itself.

In November, 1940, the United States Bureau of Animal Industry reported the completion of the prodigious task of making the entire country a "modified accredited area" which means that the incidence of this disease at present is less than one-half of one percent in every county in the United States.

Avian Tuberculosis

There has been a decrease in tuberculosis in hogs since 1927. More than 90% of this disease in swine is of the avian type contracted by the common practice of permitting hogs to mingle with poultry. Probably a large factor in controlling the disease has been the educational work which has resulted in poultry raisers disposing of entire flocks at the end of the first laying year.

Pericarditis

The Division of Meat Inspection of the United States Bureau of Animal Industry condemned during the first half of the year 1940, 2,199 beef carcasses for pericarditis (inflammation of the membrane surrounding the heart). This was .048% of the total slaughter of cattle under federal inspection during that period. It has been estimated that from 85% to 90% of the cases of pericarditis result from sharp objects penetrating through the wall of the stomach into the heart membrane. Therefore, it is urged that cattle feeders be more painstaking in removing baling wire, nails and other metallic objects that are sometimes mixed with hay and grain. Such objects are frequently picked up by cattle in the yards or fields and swallowed.

Beef Livers Condemned

Abscesses frequently form on beef livers as a result of foreign objects in the stomach, which may penetrate through the wall into the liver, or may remain imbedded within the folds of the second stomach (reticulum), setting up an irritation and infection from which the germs pass into the portal circulation to the liver. Any hard, indigestible object, not necessarily metallic, might cause such an injury and an abscessed liver.

During the fiscal year ended June 30, 1941, there was a total of 1,012,664 beef livers condemned under federal inspection for all causes which, at the average market value of $2.10 each, would represent a loss of $2,145,494 for the year. Cattle with impaired livers cannot put on maximum gains and such losses in total would far exceed the loss on condemned livers.

Anthrax

This is an infectious disease of live stock caused by a germ that exists in the soil of certain regions which are known as "anthrax districts." Cattle, horses, and sheep are most commonly affected with this disease, which develops in the acute form with a high rate of death resulting. The infection is closely associated with feed and water, but the germ may also gain entrance through the skin and respiratory tract. The symptoms vary according to the species of animal affected and the acuteness of the attack. A greatly swollen, dark, soft spleen; dark, tarry, poorly coagulating blood; hemorrhage, and watery infiltrations are the principal evidences of anthrax.

Sanitary Committees coöperating with Federal and State veterinarians have sponsored effective preventive vaccination and efficient quarantines, which have helped to stop the spread of this disease during 1941. The administration of virus and spore vaccines should be restricted to qualified veterinarians.

Cholera

This is an acute febrile disease of swine characterized by sluggishness, lack of appetite and a high temperature. It runs a very rapid and fatal course. Cholera is the most serious scourge of swine, although the loss from it has been reduced materially since the advent of vaccination. It is easily confused with acute erysipelas and may likewise be confused with necrotic enteritis, swine influenza and hemorrhagic septicemia. Biological treatment is relatively successful if instituted early in an outbreak. It consists in the administration of large doses of immune serum. Nursing is of importance in the treatment of this, as in any other disease, and should consist in the supplying of digestible and palatable foods, comfortable housing conditions and an abundance of cool, fresh water.

Prevention, however, is much more satisfactory than treatment and very few swine raisers are unaware of the value of preventive vaccination. One simultaneous treatment of serum and virus given to pigs shortly after weaning is usually sufficient to protect them until they are marketed. Those that are kept for breeding purposes are ordinarily vaccinated again. There has been some work done on the vaccination of suckling pigs. There also has been an increasing amount of work done on the use of Gentian Violet vaccine. This offers promise of supplanting the old serum-virus method of cholera prevention. This latter method, if proved sufficiently valuable to supplant serum and virus, will have the advantage of not distributing cholera virus to the premises where it is used.

Parasites in Sheep

The commonest afflictions causing losses in the sheep industry are parasites and the so-called pregnancy disease of ewes. The most troublesome parasite is the stomach worm. This contributes to unthriftiness as a result of interference with digestion and from sucking blood. The eggs are passed out in the stool where they hatch and the young parasites crawl up on to blades of grass. These are picked up and swallowed during grazing. The most effective control measure, therefore, is that of frequent rotation of pastures. Permanent pastures should be avoided whenever possible and the sheep allowed to graze for a few weeks in one area, then a few weeks in another, staying away from an infested area for an entire year. This is sometimes impracticable on the small farm. It is, therefore, advisable to treat animals when infested so as to eliminate the parasites from the breeding flock in the early spring, thus decreasing opportunities for infestation of lambs.

The treatment recommended by the United States Department of Agriculture for the elimination of stomach worms is copper sulphate. This is given as a one per cent solution in water. The dose for yearlings and older sheep is 100 cubic centimeters or about 3 ounces. The dose for lambs three months of age or older is one-half the adult dose. Because copper sulphate is poisonous the solution must be carefully prepared and accurately administered for safety. It is usually given as a drench after a period of sixteen hours without food or water.

Pregnancy Disease in Sheep

As the name indicates, pregnancy disease is a disorder affecting pregnant ewes. It is generally found in well-fleshed animals carrying twin lambs. The disease is characterized by weakness, unwillingness to eat or drink, and death in a high proportion of cases, and is apparently due to improper utilization of food materials, contributed to in a large measure by lack of exercise.

Preventive measures include enforced exercise in the form of feeding hay and grain at different places on the farm, thus forcing the animals to walk some distance several times daily. Treatment, even in the hands of a competent veterinarian, is to date not too successful. The feeding of protein rich supplements and molasses, plus intravenous injections of glucose by a veterinarian, will save some animals, especially if they will continue to eat.

Disease Control

Fortunately most of the infectious diseases causing serious losses can be prevented by scientific methods and the practice of proven sanitary precautions. The industry has never been in a more favorable position from the standpoint of controlling diseases than it is now.

Poor management is responsible for heavy death losses in young animals, particularly pigs. Under average conditions of farm management, 25% to 35% of all pigs farrowed die before they reach eight weeks of age. One of the chief causes of this excessive loss is from filth born diseases and internal parasites. These infections are picked up in infected hog lots that have been used continuously year after year. Good management will eliminate most of this loss. Pigs should be farrowed in clean quarters and removed to clean lots or pastures, where they should be kept until they are at least four months old.

MISCELLANEOUS CAUSES OF LOSS

Mixed Hog Shipments

No shipper in his right mind will ship strange hogs (together) unpartitioned and expect any appreciable number to go through with whole skins; nor may they be safely penned together at the markets.

Weak and Sick

The shipment of weak and ailing animals to market and the reloading of these same animals or others that have developed disease, or that have become crippled en route, cannot be too vigorously opposed from both the humane and economic standpoint.

Horses

Horses, weak and decrepit, to be used in the manufacture of chicken and dog food are in the same category. Those shipped for draught purposes are of sufficient value to command handling and care of a higher order, but unwarranted chances are taken on the weather and in other ways when the dollar valuation does not accord the safety of an equine pullman.

The same general safety rules apply to horses as to other types of live stock, but emphasis might well be directed to the need for snug loading (not overcrowding) and to the wise rule of tying each animal crosswise in the stock car head to tail and to the precautions that should be taken against chilling both en route and after unloading.

Milch Cows

Good treatment, common sense, hunger for profits—everything seems to make it so desirable that fresh cows be milked regularly and efficiently on the way to market that there should be no deviation from that rule. Improper loading often prevents it, and a desire to impress prospective buyers with the milk capacity of a cow is another reason for failure to give this much needed relief. A competent dairyman should accompany every load of fresh cows.

Bulls

The proverbial loose bull in a china shop has nothing on a loose bull in a cattle car.

It is recommended that each bull be not only tied securely but separated from other animals by a sturdy partition. A strong three-quarter inch rope knotted around the neck in such manner as to preclude its pulling tight or slipping over the head, fastened to the side of the car not more than three feet from the floor, leaving about thirty inches or a little more between the neck knot and the tie knot is recommended.

The expense involved in a strong buckskin halter would be an investment, not only in comfort but safety. If the rope is run through a halter ring, much more riding comfort is provided. When unloading, it is the custom to cut tie ropes, but in doing so care must be exercised that the ends are not long enough to permit tripping.

Stallions and Jacks are not accepted for shipment unless separated by partitions *and tied.* It is a wise ruling and should be extended to include bulls.

Boars and stags, either with or without tusks, must also be treated to solitary confinement behind sturdy gates, but should never be tied by the leg, or by a rope twisted around the jaw.

Chutes

Chutes used for unloading from upper decks must be sturdy, cleated properly and not too steep. Bridges employed in the same operation from single deck cars must measure up to the same general specifications. If, in addition to the present simple construction, strong side rails were added they would provide a wider margin of safety. The little extra work in placing them would be more than compensated for in the added confidence given to the stock—confidence which would result in freer movement, less danger, reduced losses. An animal falling from, or crowded from, an unloading chute yields its full quota of broken bones and wasted meat.

Use chutes or adjustable runways, constructed properly for protection of animals in unloading from the upper decks of trucks.

Don't jump sheep and hogs out of upper decks. It breaks legs, bruises shoulders and legs, and splits hind quarters.

Lifting sheep down from upper decks by the wool damages the hide and causes costly back bruises and inflammation.

The same applies to ears and tails of hogs. These are salable—bruises and tears mean loss.

Position in Trains

In trains composed of mixed freight the live stock cars should be as far forward as possible. An impulse which is a steady forward movement at the engine becomes a decided jolt at the rear end of the train. One objection to this idea is based upon the possibility of a spark from the locomotive igniting dry bedding, but the danger from this source seems negligible.

Another thought is that discomfort, from breathing smoke and soot, would be increased at the forward end of the train. That may seem relatively unimportant, but should be given careful consideration. Offsetting all theories to the contrary, is a fact that race horse people invariably request that their cars be handled at the front end of the train. There is no question but what there is less "whip" or sidesway forward than in the rear.

Rough Switching

Rough switching plays a part in creating live stock losses also, but the habitually careless or incompetent engineer does not reach retirement age in railroad service and his case can rest safely with the company employing him. His orders are to set the brakes with power on when stopping, couplings to be stretched out tight when finally stopped. Such a method is surely to be recommended.

Hazards in Stock Pens and Cars

Watering troughs and projections in cars, trucks and stock pens cause much bruise loss. A handy man with a few boards and a handful of nails in a few minutes' time can eliminate these hazards.

An improper type of hasp on car doors has been responsible for some of the most desperate flesh wounds imaginable. They should be the swinging type and carefully fastened back before unloading is begun. Two hasps instead of one, spaced properly, would hold the car door more securely. Heavy bodies heaved against a door may spring it outward sufficiently to permit a leg to slip under. Just as soon as the weight has been removed, it snaps back gripping and breaking the bone as surely as a steel trap.

SUMMARY

Prevent Costly Waste by Careful Handling

1. Adopt sanitary precautions in interest of disease control.
2. Observe scientific feeding and watering practices.
3. Remove projecting nails and splinters from feed racks.
4. Keep old machinery and junk out of pasture and feed lots.
5. Dehorn cattle when young.
6. Do not feed or water heavily just before shipping.
7. Remove protruding nails, bolts, splinters and sharp objects in truck or car.
8. Bed with sand and fine gravel to prevent slipping.
9. Wet sand in summer before loading hogs.
10. Cover sand with straw bedding, but no straw for hogs in hot weather.
11. Use good loading chutes.
12. Load slowly and carefully to avoid crowding against sharp corners.
13. Load snugly, but do not overload or overcrowd.
14. Use canvas slappers instead of clubs, canes or prods.
15. Securely partition mixed loads.
16. Partition calves from cattle.
17. Tie and partition bulls.
18. Do not mix strange hogs.
19. Employ only reliable truckers who:
    - Possess good equipment.
    - Drive carefully to avoid sudden stops.
    - Load and unload slowly and carefully.
    - Slow down on sharp curves.
    - Back trucks slowly and carefully against loading and unloading platforms.
    - Use cleated inclines.
    - Do not lift by wool, ears or tails.
    - Provide strong canvas covers to protect from sun in summer and cold in winter.
20. SLOW UP TO SPEED UP!

No set of regulations can be made to apply in all cases in the transportation of live stock. As already suggested, there is a vast difference in the class of stock handled east of the Mississippi and that handled in the west. Live stock moving to and in the east is usually finished stock ready for slaughtering, while in the west all grades are more generally moved.

Some of the suggestions contained in this article may be debatable, but an honest effort has been made to point the way to better handling.

In the old days, little attention was given to anything except prosecution for acts of cruelty committed. If animals were able to vote they would, without exception, favor the present policy of stressing *prevention of cruelty* through a better system of education and training. They would, beyond a doubt, plead with everyone to unite under some sort of a practical program of coöperation with other agencies to end bad conditions, and to better others not so bad.

Great progress in this direction has been made in the past few years.

NATIONAL LIVE STOCK LOSS PREVENTION BOARD

Located in Chicago, Illinois, this organization was formed in 1934 with Howard R. Smith as General Manager. There are four Regional Managers stationed at Sioux City, Iowa; Kansas City, Missouri; South St. Paul, Minnesota; and Omaha, Nebraska, whose specific duty it is to check constantly on all live stock brought to these various markets; to promote activity in 4-H Club groups and Future Farmers of America clubs; to arrange demonstrations in proper handling practices, and to spread the word that LIVE STOCK IS EASILY BRUISED and that BRUISED LIVE STOCK SELLS FOR LESS.

From this national organization come all the vital statistics used by packers and live stock handlers throughout the country. It supplies each local organization with vital data necessary to carry on its activities. The work is largely educational and its importance is emphasized in a recent report from Mr. Smith which reads:

> "The future of agriculture in this country will be determined largely by the development of our live stock industry on a sound basis. We cannot prevent soil erosion on sloping fields without the growing of grasses and hay crops. Leguminous plants such as clover and alfalfa take from the air and store in the soil that most valuable element of fertility—nitrogen. Without live stock we cannot convert these bulky crops into valuable concentrated products such as meat, butter and cheese that can be economically transported across the continent and some to foreign lands. Because of the importance of this industry and of its conservation, the live stock market interests, carriers and others have been coöperating with producers, Federal and State agencies and health associations in efforts to eliminate menacing diseases, and more recently the waste that takes place in the marketing process."

Closely associated with the National Live Stock Loss Prevention Board are two eastern organizations and it is hoped that numerous coöperating groups will be established in other sections of the United States.

THE LIVE STOCK LOSS PREVENTION ASSOCIATION OF OHIO

More than fourteen years ago this association was formed and has been active in reducing live stock losses in marketing in that state. An annual meeting is held at some point in Ohio and these meetings are well attended by those interested in this movement. A live stock loss demonstration contest for vocational students in agriculture is sponsored each year by this organization.

EASTERN STATES LIVE STOCK LOSS PREVENTION ASSOCIATION

This association was organized at Boston, Massachusetts, in 1936. The Directors include representatives of the various State Departments of Agriculture, the agricultural colleges and schools, farm newspapers, granges, 4-H Clubs, packing plants, railroads, veterinarians, and the Animal Rescue League of Boston.

Its purpose is to organize and correlate the work of individuals and organizations interested in the prevention and reduction of the losses of live stock; to aid in the prevention and reduction of live stock losses beginning with the producer.

Merit Awards

As a beginning, for enlarging Humane Education to include right treatment of food animals on the farm, during transportation, and at the market, the Eastern States Livestock Loss Prevention Association awards a plaque to be attached to cab doors indicating that the trucker is a careful handler of live stock. Certainly, a man who shows consideration for the stock in his care and a lighter loss ratio than his competitors, should be accorded some recognition. He will be fully entitled to any extra business that may come his way as a result of these shields displayed permanently on his truck, advertising him as a careful and dependable carrier.

Contests

For the purpose of creating interest in live stock loss prevention matters, this organization has sponsored several contests. Students in county agricultural schools or high schools and bona fide 4-H Club members, under twenty-one years of age, have competed. These boys and girls, many of them future farmers, have been taught to realize the heavy toll exacted by improper treatment of live stock.

Exhibits

An exhibit consisting of a model stockyard, canvas slappers, noise makers for driving sheep, driving gates for hogs, moving pictures, and display cases containing model bruised meat specimens has been shown at all the local fairs since the organization was formed.

These demonstrations are arranged to impress the farmer, trucker, railroad handler, and stockyard and packing house employees, that bruised meat results in loss, part of which is borne by everyone concerned from the stock raiser to the ultimate consumer.

Progress is relatively slow, but the interest shown by those associated closely with the live stock industry attests to the popularity of the movement.

THE IMMATURE CALF PROBLEM

IN ORDER to portray vividly the misery a trapped animal is forced to endure, Wilford E. Sanderson, Director of the Wild Life Department of The American Humane Association, frequently uses the equation, "*extent* of suffering plus *duration*," to appraise properly the *cruelty* involved. If a man beats a horse, kicks a dog, or shoots a cat, vigorous complaints are made promptly, but, too often, cases are unreported in which lame or emaciated horses are forced to work, or dogs are observed tied to short chains day after day, or cats are deserted to shift for themselves. Yet, according to Mr. Sanderson's definition, greater misery accompanies the last three types of cruelty suggested.

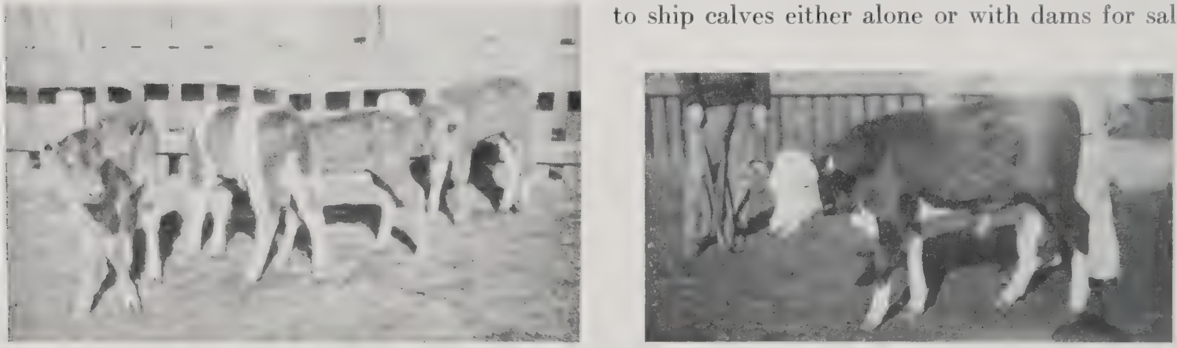
It has been stressed repeatedly through OUR FOURFOOTED FRIENDS that the transportation of live stock to market is the greatest and most extensive problem with which the humane movement has to deal. The 28-hour law, the only specific federal regulation *which has been designed to minimize their suffering*, provides in part that except in cases where "animals are carried in cars in which they can and do have proper food, water, space and opportunity for rest, railroad corporations shall not permit animals carried or transported by them confined in cars longer than twenty-eight consecutive hours without unloading them for at least five consecutive hours for rest, water, and feeding, unless prevented by storm or accident." An amendment to this statute has made it possible, under certain conditions, to extend the time limit to thirty-six hours.

At the time this law was enacted, motor trucks were not a factor in live stock transportation, and, therefore, no provision was made for the proper handling of live stock shipped interstate by trucks. Efforts are being made to have Chapter 272 of the General Laws amended so that it will cover truck as well as railroad shipments of live stock. The last report to date indicates that Congress is giving priority consideration to war matters. However, it is altogether possible that as a conservation measure the bill may finally be considered in that category.

This furnishes a background against which to appraise animal suffering in transit to city markets. Either twenty-eight or thirty-six hours is a long period during which any creature from a sturdy horse or steer to a fragile calf or lamb may be transported through hot summer days and nights or the bleak weather of midwinter. Immature calves are the principal sufferers. Unlike older animals they cannot extract much, if any, nourishment from hay and grain, practically the only food provided at unloading points. Because of the expense involved, and other factors which will be touched upon, the feeding en route or at division points of milk, raw eggs or other easily assimilated food, such as calf meal mixed with skim milk, is regarded as impracticable.

According to the most ordinary humane standard a real effort must be made to enact a federal law or to amend the present statute to prohibit the shipment of either calves or lambs under a specified age or weight.

In the western states, cows, accompanied by their offspring, are at times transferred from one feeding area to another, and it is a general practice to ship calves either alone or with dams for sale



A few weeks of good care and intelligent feeding would have transformed this pen of weak calves into specimens as sturdy as the one on the right or show purposes. Shipping conditions in such cases make it possible to feed and protect the young, and the regulation under discussion would be made to apply only to live stock shipments to market. Requests for further exemption can be anticipated from those who will claim that calves shipped in ordinary stock cars with milch cows can take care of their own feeding needs. It must be kept in mind, however, that it is an exceptional cow which will voluntarily suckle any but her own calf, and a strange baby faces a serious extra hazard when the natural law is violated. Trampling by the larger animals is the principal danger when calves are shipped this way.

Miss Aline J. Boyce, Secretary of the Lucy Mackenzie Humane Society, Woodstock, Vermont, has designated immature calves taken from their mothers a day or two after birth and shipped via truck or rail "*the most abused babies in the world!*" While it is not necessarily the most extensive cruelty in point of the number of animals involved, the practice ranks close to the top in the sort of thing animal welfare organizations are expected to control and in large measure eliminate. It could be controlled largely by a coöperative effort on the part of humane organizations and public health units, since most if not all states have passed specific laws prohibiting the shipment *for food purposes* of calves before they have reached a certain age. It is known by all officially concerned that regulations are flagrantly violated, but evidence sufficient to convict is difficult to obtain. When breeders and shippers are charged with violations, they insist that the animals are not sold for food purposes but just as tankage, fertilizer and for the small sum of money the hides will bring.

In Maine, the revised statute of 1930 prohibits the killing *for the purpose of sale* of any calf less than four weeks old *or having in possession with intent to sell for food* the meat of any calf killed when less than four weeks old.

New Hampshire laws, amended by acts of 1929, provide that no person shall kill or cause to be killed *for the purpose of sale* a calf less than four weeks old and of a net dressed weight of less than forty pounds, not including the heart and feet, nor shall he sell, or have in his possession for intent to sell, the meat of such a calf.

In Vermont, the public law of 1933 prohibits the sale of flesh of calves *for food* which are less than three weeks old or weigh less than fifty pounds dressed weight when killed. It prohibits shipping of such out of the state. It also provides that possession of such flesh *dressed or packed in a manner for sale or use as food* shall be prima facie evidence of the intention to sell the same or to ship it out of state.

Massachusetts laws prohibit the killing of calves less than four weeks old for veal or when they weigh less than forty pounds when dressed, with head, feet, heart and entrails removed.

The Rhode Island General Laws of 1923 prohibit the sale of flesh of any calf which has been killed at the age of four weeks or less and weighing less than seventy-five pounds.

Connecticut General Statutes of 1930 prohibit the sale of flesh of any calf which is less than four weeks old when killed or weighing fifty-five pounds or less when dressed by the removal of the hide, head, heart, lungs, liver and entrails. The possession of any such flesh dressed in a manner suitable for sale is to be deemed prima facie evidence of an intent to sell the same.

Despite these laws, year in and year out little animals, which from birth have never had anything closely approaching a full meal, are shipped and used for food purposes. Upon whom does the blame rest? Part of it might be placed upon the various Health Departments or Meat Inspection Bureaus, but let it be admitted, regardless of other agencies which may be involved, that the blame rests heavily upon the shoulders of animal protection agencies.

WHEN PROSECUTION IS JUSTIFIED

It would prove to be a gigantic mistake and one which would create barriers of ill feeling hard to surmount, to embark upon a campaign backed by these laws without prior announcement of intention to enforce them and without first providing an opportunity for their voluntary observance. Because of the false testimony already referred to, convictions would be hard to obtain. The only remedy is to seek the enactment of a new or amended statute of the type already mentioned—a law which would prohibit railroads and truckers from accepting weak animals of any species for shipment, as well as making it unlawful for breeders to offer them for shipment. Good reasons exist for believing that the railroads would welcome such restriction.

THEY MUST NOT BE SHIPPED

Happily, such a development would not mean financial loss to any farmer but possibly a profit as the result of the expenditure of a little time and effort. The underlying motive for the sale of immature calves is the desire to market the milk they would consume. A dollar or two is the maximum to be realized by the sale of an undersized, undeveloped animal, and the value of the milk it would drink would quickly exceed that amount. However, for a period of five days following the birth of a calf the mother's milk is unfit for human consumption, and the farmer who would not mix such a product with the legitimate output from his dairy would sustain no loss by permitting the calf to suckle the mother for that length of time. For the following three or four weeks, skim milk enriched by the addition of a good calf meal could be fed profitably.

For the information of those who may not understand the digestive process of calves and other ruminant animals, it should be explained that the stomach in these animals consists of a complex arrangement of the true (rennet) stomach and three fore-stomachs, which are really out-pouchings of the oesophagus that have been specialized by nature for the digestion later of grass and hay. The milk which the calf consumes through sucking goes direct to the rennet stomach through the oesophageal groove. In feeding from a pail, the calf drinks too quickly and the milk in the oesophageal groove overflows into the fore-stomach where it sours and ferments, causing discomfort and illness. Even though a proper feeding utensil to offer as a good substitute were not available, there would be justification in compelling strict observance of the natural method of feeding calves, despite the fact that it would entail the sacrifice of a few dollars. However, there are calf-feeding pails on the market equipped with sturdy rubber nipples which leave little to be desired in the way of convenience or practical use.

The man who will not voluntarily allow his calves to remain with the mother, as nature certainly intended for at least a reasonable period, must be persuaded or forced either to put them humanely away or feed them artificially in some such way as suggested. If he claims he cannot spare the time required, he should employ more help or operate a smaller dairy. In any case, he is dealing with live creatures, susceptible to extremes of heat and cold, with pains and illnesses akin to those suffered by man, and long journeys by rail or truck on empty stomachs must not be tolerated indefinitely by humane organizations. The principles of better general care also apply to the young of other species, but man's need and man's greed rob calves of the first requirement for sustaining life and these "*most abused babies*" must be protected.

An article by Ralph H. Elwell, entitled "Veal Farming," which was published in the May 20, 1939, issue of the *New England Homestead*, one of the most popular farm papers in the country, dealing with the experience of Roscoe I. Littlefield, a Maine farmer, in raising calves can be accepted as proof that it can be done at a profit. It reads in part:

"Mr. Littlefield moved onto the farm during the midsummer of 1936. After the haying season was over he began to buy cattle around the surrounding country. He would buy anything and everything, grade dairy cattle, bulls, steers, and calves. Six or eight weeks with their foster mothers was all that was necessary to grow these calves to market size as veal. The cattle purchased were for the most part low grade, or so-called 'scrubs.' Many of them had never tasted grain and were naturally thin and practically worthless either as dairy or beef animals. Calves were allowed to suckle on them. Only enough milk for home use was milked by hand, the rest being utilized through these calves. It soon became an enterprise which paid well.

"Many dairymen who lived close to a good market for their milk did not raise any but their best blooded dairy calves, the others being either disposed of when they were dropped or sold for around a dollar each, sometimes for less. Mr. Littlefield bought many of these calves, not because they were the equal of beef breeds, but because they could be bought cheaply and more people had them to sell. These calves made him a good market for his milk. As the Boston market paid good prices for veal, the calves went to that market. Having paid out but a small price for the calves and by feeding them the milk from his cows, it was possible for him to pocket the savings. The only expenses were the overhead costs on the farm buildings, taxes, and insurance, all of which were negligible as compared to the total income. If he had tried to compete with the well-established dairymen in producing milk he would have been facing competition too stiff for anyone. Then again, his cows were not the type or breed which make good milkers. They were the lowly 'scrubs,' something the dairyman could not afford to keep in his herd because of their low production and failure to milk the year round.

"The start of the business was about four years ago. Today it is paying well, better than any other farm in that region. All this in four years. Farmers in and around this region who have been there for a long time, some of them all of their lives, are in no better financial situation today. Most of these farms are marginal or sub-marginal. They raise dairy cattle, sell milk to the same Boston markets, and raise crops for local factories and stores, for the most part receiving prices which will scarcely pay the farmer's labor costs. Perhaps the whole state is not in the same condition, but I believe many of these dairymen could do much better with beef."

Clifford D. Black, Manager of the Brighton Stockyards, after reading this article, made the following observation: "The article on Veal Farming struck me as just the thing at the present time, and something that should be put before the farmers as emphatically as possible. On all my trips through the country, I hear the hue and cry of the low price paid for milk. These same farmers ship most of their calves to market soon after they are dropped and obtain only bob veal prices for them which are the very lowest. If three or four calves were put onto a good nurse cow for several weeks they would use up a good deal of their surplus milk and develop a calf that would bring double and perhaps triple the price of the bob. In any event, they could not help obtaining more than the price paid for surplus milk. The calf market is invariably good on the better veal type of calf and incidentally it would discourage some of the talk prevalent about the shipping of too young bob veal. In other words, it looks like a case of killing two birds with one stone."

In order to present all sides of this question, the remarks of another Maine farmer are included: "I think Mr. Black's idea about using milk to raise first-class veal is good, for I have tried it, but what he writes about putting three or four calves on one cow for even a short time is fatal. If the best of veal is to be sold—say eight-weeks-old, fat, heavy veals—a veal must have all the milk it can eat from the first. It is never right if it starts wrong, and must keep eating a lot of milk right along. A vigorous Brown Swiss bull calf should take all milk from two cows after four weeks."

It must be kept in mind that the *New England Homestead* article deals with raising calves until they can be classed as prime veal (something over 150 pounds). From both the humane and good food standpoint it is to be regretted that insurmountable obstacles would probably prevent the enactment of a law which would set such a high standard, but a required minimum weight of 150 pounds would insure that calves had reached the stage where they could endure transfer to market with some degree of comfort, where the meat could be considered fit for human consumption and the hides of a good quality. Such calves would need only a few days of natural feeding, then feeding from a pail until old enough to eat solid food also. From both the humane and good food standpoint, age rather than weight is the most important factor. A Holstein calf could readily weigh more at birth than a Jersey at four weeks of age. The flesh of the Jersey would be fairly firm and the bone structure well developed while the Holstein would be weak and tottery, the muscles flabby and the bones soft. Other breeds could be likewise compared. It would be infinitely more difficult to enforce a law based upon age than upon weight, but humane societies have not been able to establish any sort of regulation to date.

While humanitarian principle alone should be sufficient to bring about this much needed reform, an effort based upon economy as well as merciful consideration stands a far better chance of success at this time. Because of the war the country is conservation minded and the time seems especially propitious for a supreme effort. Anticipated wartime food conservation measures might be made to include restrictions which, although *designed primarily to minimize financial loss* through death or disablement due to immaturity of young calves, *would also tend to eliminate suffering.*

With this thought in mind, a letter was sent to Dr. J. R. Mohler, Chief of the United States Bureau of Animal Industry. His reply was rather disappointing in that he stressed the fact that every possible effort is being made to increase milk production and dairy products for home consumption and to be shipped abroad. He feared that any milk used to feed calves over an extended period would contribute to an undersupply.

A letter from Richard C. Craven, Western Regional Director of the American Humane Association, contained the valuable suggestion that the raising of heifer calves would be a good move for the purpose of increasing the milk supply if that is the vital need.

A contrary opinion to that of Dr. Mohler, and one which might indicate that the whole problem is more pertinent to New England than to the rest of the country, comes from a competent authority, a Director of the Eastern States Live Stock Loss Prevention Association. He states:

"The fighting forces of our country eat more solid food, such as meat, than any other one product. Therefore, if farmers could be educated to keep their calves until they are heavier in weight they would not only realize greater profit but would be adding to the demand which is, of course, increased because of the war. Also, if farmers kept calves a longer period these animals would take up the normal oversupply of milk. The Government, as is generally known, has asked for increased production of milk so that quantities may be condensed and sent to our allies. However, this has had a tendency to increase herds to the point where there is an over-production right at the present time. Eventually, a level must be reached. If this war should end suddenly there would be more milk with less demand for it. It would seem wise, therefore, to begin to educate the farmer at this point to keep his calves for longer periods.

"While the present emergency for milk and dairy products is pertinent, the fact is that the waste of time to many individuals in getting these commodities to a point of shipment more than offsets what they would gain by keeping young calves until they reach a weight that would bring better profits. In other words, the remote location of many hilltop and country farms, now striving to retain a fluid milk market, many times seriously interrupts the shipment of these products. Often these very products are excluded from shipment and, of course, farmers do not have facilities for keeping such material for long periods of time. Many factors besides the distance of farms from shipping points enter into the picture—mud seasons, spring and very stormy periods. Proper refrigeration and electricity are not available so farmers are forced to keep milk, particularly if they cannot get it to a shipping point, without success.

"At the present time there is an organization set up by the Government known as the Federal Works Reserve Board which is working on ways and means of leveling out industry after the war is over, using as its yardstick the utilization of products built up on war levels. Of course, the farmer with a level of 10% to 15% over-production of milk cannot expect a normal consuming public to absorb this amount. Such farmers, who might be encouraged to carry calves longer, should acquire a good beef sire to increase the size and rapid growth of their stock, providing they do not intend to raise cross-breeds but to sell the offspring for meat purposes, thereby obtaining really good veal. It is generally considered that 20% increase would be secured by such cross-breeds over straight dairy breeds, so farmers right here would be gaining a fifth of their normal income on the same production level.

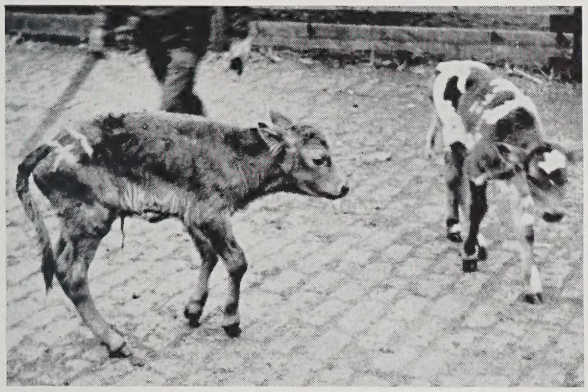
"Crops, land and total production would be materially increased by keeping that production right at home and selling it on the hoof, which is the best way to market products that have been proved as best in live stock. Furthermore, the general public would be the greatest benefactor because it would be eating higher quality veal."

The American Humane Association is strongly in accord with any plan designed to prohibit the shipment of immature calves. Sydney H. Coleman, President of that organization, sent a letter in regard to the matter to Howard R. Smith, General Manager of the National Live Stock Loss Prevention Board in Chicago, Illinois, which led to an invitation to speak on the topic "The Desirability of Eliminating the Marketing of Bob Veal" at their Annual Meeting in February. As a result, a Committee was formed to consider all phases of the problem for the purpose of determining what action should be taken.

The American Humane Association has sent a questionnaire to authorities in various parts of the country seeking information on the following points:

1. Area covered in study.
2. Number of calves received at stockyards for 12 months' period.
   Number slaughtered locally.
3. Number received less than three weeks of age.
   Where do they chiefly come from?
4. Number of dead or injured on arrival.
5. How does death rate compare with older calves?
6. Do young calves (those under three weeks) come directly from farm or are they taken to sales yard?
7. How does price of young calves compare with older ones?
8. What is attitude of dairy farmer to keeping calf until it is six to ten weeks old?
   - Stock farmer?
   - Commission merchant?
   - Railroad representative?
   - Packer?
9. What arguments can you advance for prohibiting transportation by rail or truck of calves under six to ten weeks?
10. Obtain, if possible, from competent sources comparative value of a veal calf on the market at 10 weeks and the value of the milk that would be used in bringing calf to that age.

This should provide valuable data as a basis for determining whether the problem is general or more particularly local to New England. There is no question of the need for regulation in this area. Calves sent to the Brighton Stockyards have frequently sold for as little as $3.00 each. This indicates their pitiful condition on arrival;



but the photograph, plainly showing the umbilical cord which proves that the little creature was only a few days old, speaks more eloquently than many words.

Unless considered carefully the following statistics might fail to present the true picture. According to records at the Brighton Stockyards, 29,704 calves were shipped by train and 68,281 by truck in 1941—97,985 in all. Of this number 482 were dead on arrival—476 by train and 6 by truck. Three hundred and forty-six apparently brought in by truck arrived in such poor shape that they had to be slaughtered immediately. Eighty-two of these were known to have been shipped by train, 60 by truck, and 204 were found in the yards at various times, and the supposition is they arrived by truck. The shipments involved came from Vermont, Massachusetts, New York, New Hampshire and Maine. An examination of the reports submitted by League agents covering 170 recent shipments taken numerically and at random, including both truck and rail, disclosed that 206 calves were dead on arrival and 125 were so badly crippled that they were slaughtered at once. The number of deads ranged from one to twelve per shipment. This does not include the many carcasses which were condemned as being unfit for food after slaughter as a result of bruising or other serious condition.

It must be kept in mind that many hundreds of additional calves were borderline cases and not included in this summary, and that there are hundreds of small slaughtering establishments scattered throughout New England to which diseased, crippled and immature animals are taken which would not pass inspection at the larger packing houses and stockyards. If they could be included in an honest analysis, a distinct conservation problem at least in New England would be forcefully indicated.

Dr. Grace Burnett, President of the Vermont Humane Society at Brattleboro, states there are at present 250,000 milch cows in the State of Vermont alone. It is estimated that 65,000 calves are shipped out of the state annually and that *50,000 of this number are bob veals.* These figures were given to her from a thoroughly reliable source. Another authority estimated the number of bob veals at *75,000 shipped by rail and 20,000 by truck.*

A live stock buyer and shipper in another section of Vermont states that about nine out of every ten shipped are immature. Neither Maine nor New Hampshire in their rating as dairy states compare with Vermont, and for that reason a greater proportion of calves are raised to maturity. However, a correspondent in Maine states that about 5,000 calves go through one junction point to Brighton market and that probably 75 per cent of them are from three to four days old. According to a New Hampshire authority approximately one thousand calves are shipped to Boston annually from that state and bob veals comprise from 10 to 20 per cent of all calves shipped.

These calves represent financial loss as well as misery beyond description. Just a few weeks of feeding on skim milk, supplemented by inexpensive calf meal, would have resulted in a pay check for the shippers and additional food for which the nation is pleading. Far more milk than is used at the present time for this purpose should be given to both calves and pigs.

In a letter, reported by the *Associated Press* to have been sent to the Senate by President Roosevelt on February 25th, this paragraph appeared:

> "Food production is playing a vital part in the conduct of the war. Not only this country but all the United Nations are relying upon abundant production of food by the farmers of America. The two classes of products of which we have the greatest need for increased production are *live stock products* and oil-producing crops."

Animal protection organizations alone seem to have been seriously concerned with the traffic in immature calves to date, but the time appears to have arrived when other interests, including public health authorities, should recognize the need for drastic regulation. A ruling of the United States Department of Agriculture condemns as unwholesome and unfit for human consumption meat which has the appearance of being water-soaked or which is loose or flabby or tears easily or can be perforated with the fingers or lacking good muscular development as a whole.

That describes bob veal with accuracy and should be of sufficient interest to city, state, and national health units to persuade them to join in an effort to prevent the marketing of this product. It might be argued that the enforcement of the regulation just mentioned, or of the state laws which specify certain ages and weights under which it is unlawful to ship calves for the *purpose of sale as food*, is all that is necessary, but the weakness of this contention has already been indicated. A weight regulation, high enough to exclude the shipment for food purposes of any calf lighter in weight than an average four-weeks-old Holstein, or other heavy breed, would seem to be the answer.

TANNERS INTERESTED IN IMMATURE CALF PROBLEMS

Dr. August C. Orthmann, former President of the American Leather Chemists Association and President of the Orthmann Laboratories, Inc., of Milwaukee, Wisconsin, has sent the following information, which gives added weight to the argument that economic as well as humanitarian consideration should prompt support of any effort to remedy the situation under discussion:

"First of all, calves that are but a few days old have a skin that is very tender and naturally not far beyond the embryo stage. It may be fully developed as to details of pattern, being small and immature, and it lends itself to the so-called fancy leather group only—principally, suede leather. This can also be placed in the luxury class. It is used chiefly for women's high-priced shoes as well as handbags, purses, and the like. In the trade it is classed as a slunk (slink) or a four-to-five-pound skin, which at best is the smallest calf skin the tanning industry uses.

"A more mature animal will produce a skin of ten pounds and up. There is a definite shortage of calfskins in the country, due to the war situation. This also applies to larger hides, such as cows, steers, and bull hides.

"The War Production Board is demanding preference of all heavy leather for the army and navy. This pertains particularly to heavy cow, steer and bull hides. All sole leather stocks which are heavy hides have been frozen so that only a small amount is being allocated to civilian use.

"Calfskins of a larger size, especially those between ten and twelve pounds, are used for navy shoes to a great extent. Thus, it can be seen that under the present conditions it is very important that we have as large a supply of hides from larger animals as is possible, and there is no question but that the war effort would be materially assisted if and when all our bovine species would be permitted to grow to maturity—at least to a stage where they would provide a larger hide than the veal which is a few days or a few weeks old.

"No one can tell how long this war will last, and with a contemplated army of from eight to ten million men, you can readily visualize the large number of hides that will be required to provide shoes for such an army. To grow all animals beyond the calf stage is impossible, but surely at the present time an effort should be made to provide as large and heavy a hide as is possible."

An *Associated Press* report dated March 12, 1942, stated that 80 per cent of top-grade leather soles will be set aside for the manufacture and repair of military shoes. It was estimated that 3,840,000 pairs would be required for army, navy, marine corps and lend-lease requirements. Ten pairs of shoes per soldier each year is said to be the quota.

* * *

Live stock loss prevention associations, meat packers, railroad and trucking interests, stockyards, commission firms, live stock raisers and dealers, newspapers, farm journals, Federal and State Departments of Agriculture, granges, county farm agents, agricultural schools and colleges, milk control boards, health departments, humane societies, and other agencies, will be urged to lend their support to end one of the most glaring and malignant abuses which has ever been forced upon animals.

ELECTRIC STUNNING OF FOOD ANIMALS PRIOR TO SLAUGHTER

THE actual handling of animals in abattoirs prior to slaughter has improved vastly, but most killings are unaccompanied by any sort of stunning. Where employed, it is still of the crude variety. This is due to the fact that as yet an improved economical and practical method has not been developed sufficiently.

To a relatively small group, electric stunning still holds great promise. The principal obstacle at present lies in the fact that lesions and hemorrhage in lungs and tissues caused by electric current resemble so closely those induced by disease that it is difficult to differentiate between them. The necessity for the strictest sort of meat inspection, as a safeguard for public health, cannot be emphasized too strongly and, until some modification of current, or an entirely new method has been devised, progress will be at a standstill. However, if backed by the determination to succeed, discoveries already made may point the way to ultimate success.

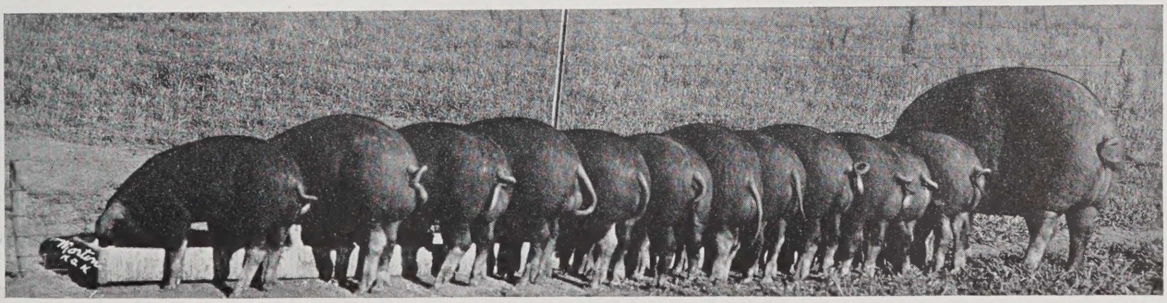
After long and careful study of possible methods of stunning, which would not decrease profits or delay operations, electricity was felt to be the most practicable. Shooting was discarded because of the danger involved and the use of the Cash Captive Bolt Pistol was eliminated after a first-hand study of its use abroad. In England, cattle are raised on relatively small farms and become domesticated to the point where they can be handled safely at short range, permitting the use of almost any kind of stunning instrument, while the bulk of food animals in this country, raised on western prairies, are too wild to approach closely with any degree of safety. It should be further explained that both shooting and stunning by means of the Cash Captive Bolt Pistol damage the hide and drive bone splinters into the brain rendering it unfit for food.

The first experiments with electricity met with failure because its use resulted in extensive hemorrhage and blood clots, usually in the most expensive cuts of meat in steer carcasses. In swine, the loss from this source was relatively light as the bleeding was confined largely to the lungs. For that reason, further experiments were restricted mainly to hogs. Finally, through an intermittent electrical current, insensibility was induced for a period sufficient to cover the entire slaughtering operation, and all tests indicated that no suffering was experienced. However, while this was found to be an improvement, damaged tissue still resulted from its use.

It should be stated frankly that the meat industry, voluntarily and without expense to any humane organization, has conducted all experiments to date. In order to handle each animal separately, long runways were built, sufficiently narrow to permit the entrance of only one at a time. This did not work because the leaders would invariably proceed but a short way, then stop, blocking the way for others which would have followed. Attempts to force them simply caused excitement and confusion. The next development was a movable floor in the chutes designed to carry each animal forward, permitting others to follow, but the unaccustomed action caused them to back up at a greater speed than the floor was moving forward. Once again the runways were dismantled and reconstructed with a solid, sloping floor, but with sides built like an endless belt. The floor was pitched so that the sides, working on the escalator principle, carried each animal along to the station occupied by the operator of the electro-lethal instrument.

All this should demonstrate that sincere effort has been made to perfect a method of painless stunning, and it is hoped the final difficulties will eventually be surmounted.

If the lung lesions and hemorrhage can be eliminated, or a method developed whereby inspectors can differentiate between those caused by the current and those induced by disease, real progress will be in sight.



THE END

Additional Copies of This Magazine Will Be Sent Upon Request to Those Who Are Interested in the Topics Discussed

Suggestions designed to improve shipping conditions and to eliminate the traffic in bob veal and ideas for the perfection of a system for stunning animals prior to slaughter will be welcomed

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Tribute to the Cow

Delivered by Col. F. M. Woods at Springfield, Illinois, at the Opening of a Shorthorn Cattle Sale, 1897

GRAND AND NOBLE BRUTE, of all man's animal friends she is the greatest! To her we owe the most. Examine into all the channels of trade into which she enters and note the result should she be blotted out. A Sunday stillness would pervade the great stockyards of our large cities and grass would grow in the streets.

One-half the freight trains that plow the continent from ocean to ocean would sidetrack, for there would be nothing for them to do. Fifty percent of the employees would draw no pay on Saturday night and our tables would be bare of the greatest luxuries with which they are now loaded. The great plains of the West that the cow has made to blossom like the rose would revert to the Indians from whence they came, and millions of prosperous homes would be destroyed.

None other like the cow. There is not a thing from nose to tail but what is utilized for the use of man. We use her horns to comb our hair, her skin is on our feet and horses' backs. Her hair keeps the plaster on our walls. Her hoof makes glue and her tail makes soup. She gives us our cream, our milk, our butter and cheese, and her flesh is the greatest meat of all nations. Her blood is used to make our sugar white, her bones when ground make valuable fertilizer, and even the contents of her paunch, she has herself put through the first chemical process for the manufacture of the best quality of white board paper and now it has been discovered that paper can be made into the best false teeth.

Oh, you who would abuse the cow, I wish that I could for once take from your table as you are about to sit down to the evening meal all that the cow has placed thereon. I'd take the cup of milk sitting by the baby's chair, I'd take the cream biscuit, the custard pie, the cream for coffee, the butter, the cheese, the smoking roast beef or steak, or the sweet corned plate of juicy meat. In fact, I'd leave you to make your meal on Irish potatoes, beet pickles and tooth picks.

No other animal works for man both day and night; by day she gathers food and when we are asleep at night, she brings it back to rechew and manufacture into all the things of which I speak. She has gone with man from Plymouth Rock to the setting of the sun. It was her sons that drew the prairie schooner for the sturdy pioneers as inch by inch they fought to prove that "Westward the Star of Empire Takes Its Way," and the old cow grazed along behind and when the day's march was done, she came and gave the milk to fill the mother's breast to feed the suckling babe that was perchance to become the ruler of his country.

Who says that what we are to a great extent we do not owe to man's best friend, the cow? Treat her kindly, gently, for without her words fail me to describe.

It was the cow that made it possible for man to change the great American desert into a land of happy homes. When she came, the buffalo disappeared, the Indian tepee gave way to the church, schoolhouse and home, and where once the wild wolves howled today children prattle, grass grows, flowers bloom and birds sing.